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## **Norovirus Infection: Information for Schools**

*- Noroviruses are increasingly being recognized as the leading causes of foodborne disease in the United States, and have been linked to outbreaks of intestinal illness on cruise ships and in communities, restaurants, camps, **schools**, institutions, and families. This fact sheet provides information about the virus and includes preventive measures to reduce or eliminate further illness.*

### **What is norovirus infection?**

Norovirus infection is an intestinal illness that often occurs in outbreaks. The virus was first identified in 1972 after an outbreak of gastrointestinal illness in Norwalk, Ohio. Later, other viruses with similar features were described and called Norwalk-like viruses. These have since been classified as members of the calicivirus family.

### **How do people get norovirus infection?**

Norovirus is found in both the stool and vomit of infected people. The virus can be spread in many ways, including the following:

- Swallowing food or water that has been contaminated with norovirus;
- Swallowing airborne droplets created by the vomitus of an infected person;
- Touching surfaces or objects contaminated with norovirus, and then placing one's hand in their mouth;
- Having direct contact with another person who is infected, e.g. caring for someone who is ill with the virus, or sharing food, beverages, or utensils with an ill person.

Food and drinks can easily become contaminated with the norovirus because the virus is so small. Some foods can be contaminated with norovirus even before they are delivered to a restaurant or store. Raw oysters harvested from contaminated waters have been responsible for past outbreaks. Produce such as salads and frozen fruit may also be contaminated at the source.

### **Who is at risk for norovirus infection?**

Anyone can get norovirus infection. Dehydration, the most serious health effect from infection, can be more common in young children, the elderly, and immunocompromised.

### **What are the signs and symptoms of norovirus infection?**

- Nausea
- Vomiting
- Diarrhea
- Stomach cramps
- Severe illness or hospitalization is uncommon. Infected persons usually recover in 2 to 3 days without serious or long-term health effects.

### **How soon after exposure do symptoms appear?**

Symptoms usually appear in 1 to 2 days after exposure to the virus.

### **How is norovirus diagnosed and what is the treatment for Norovirus infection?**

Currently, 47 state public health laboratories, including RI, have the capability to test stool samples of infected individuals for norovirus by reverse transcriptase polymerase chain reaction (RT-PCR).

No specific treatment is available. Persons who are severely dehydrated might need rehydration therapy.

### **How can norovirus be prevented in schools?**

- Encourage staff and students to wash hands with soap and warm water after toilet visits, blowing their nose, sneezing or coughing, and also before preparing or eating food. (For additional information, refer to “Things to Do to Prevent Infectious Diseases” at URL: <http://www.health.ri.gov/disease/communicable/thingstodo.php>)
- Isolate the student from other students if he or she has an episode of vomiting and/or diarrhea in the school or classroom.
- Isolate all students from the vomiting and diarrhea.
- Thoroughly clean and disinfect contaminated surfaces immediately after an episode of illness by using a bleach-based household cleaner. Put on disposable gloves and a mask if available. Wash and wipe down the toilet area, faucets and similar hard surfaces with a virucidal agent or a mixture of one tablespoon of bleach to 3 cups of water. If cleaning up vomit or stool, use two tablespoons of bleach to 1 cup water. Carpets should be steam cleaned.
- Wash with soapy water and disinfect any toys or equipment that have entered a child’s mouth.
- Food handlers with symptoms of Norovirus illness should not prepare or touch food.
- Exclude ill staff and students from your facility for at least 48 hours after vomiting and diarrhea have stopped.

### **Where can I get more information on noroviruses?**

The Centers for Disease Control has additional information at URL: [http://www.cdc.gov/ncidod/diseases/submenus/sub\\_norwalk.htm](http://www.cdc.gov/ncidod/diseases/submenus/sub_norwalk.htm)

*This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health-care provider. If you have any questions about the disease described above, consult a health-care provider. (Adapted from the Association of State and Territorial Directors of Health Promotion and Public Health Education and the Centers for Disease Control and Prevention)*